



The Presidential Green Chemistry Challenge Research Grant Opportunities

The moment a chemist puts pencil to paper to design the synthetic sequence that will be used to manufacture a chemical product, he/she also decides intrinsically whether that sequence will use or generate hazardous substances that will require special handling, treatment, transportation, or disposal. There can be literally hundreds of different chemical reactions to choose from when constructing chemicals, some of which are more hazardous and generate more pollution than others. With proper forethought and analysis, chemists can choose reactions that are less hazardous and prevent pollution, thereby avoiding many of the environmental problems and chemical liabilities that chemical manufacturers face.

OBJECTIVE:

The Presidential Green Chemistry Challenge supports fundamental research in green chemistry in order to provide industry with the chemically-viable tools and methods necessary to develop products and processes that are more environmentally benign.

BACKGROUND:

In 1992, the U.S. Environmental Protection Agency (EPA) awarded six grants to fund basic research projects that consider impacts to human health and the environment in the design of chemical syntheses. In 1992, EPA's Office of Pollution Prevention and Toxics signed a Memorandum of Understanding with the National Science Foundation (NSF) to fund green chemistry research jointly. In 1994, EPA's Office of Research and Development entered into a partnership with NSF to fund environmental research jointly as part of its new Science to Achieve Results (STAR) research program. This partnership includes research on green chemistry through an annual solicitation titled "Technology for a Sustainable Environment."

DESCRIPTION:

The Presidential Green Chemistry Challenge was established to recognize and promote fundamental and innovative chemical methodologies that accomplish pollution prevention and that have broad application in industry. Although the program does not provide an independent mechanism for green chemistry grants, it does support the EPA/NSF partnerships for environmental research.



The Technology for a Sustainable Environment solicitation addresses the technological and environmental issues of design, synthesis, processing, production, and use of products in continuous and discrete manufacturing industries. Research proposals are invited that advance the development and utilization of innovative technologies and approaches directed at avoiding or minimizing the use or generation of hazardous substances.

The total number of grants awarded for this activity depends upon the technical merit of the proposals (determined by external peer review), their relation to the agencies' missions, and the financial support available to both EPA and NSF for this program. Projects selected for support may be funded individually either by EPA or NSF, or jointly by both agencies. This is at the option of the agencies, not the grantee.

GRANT RESEARCH AREA: CHEMISTRY FOR POLLUTION PREVENTION:

The long-range goal of this program activity is to develop safer commercial substances and environmentally-friendly chemical syntheses to reduce the risks posed by existing practices. Green chemistry, a fundamental approach to preventing pollution at the source, involves the design of chemicals and alternative chemical syntheses that do not utilize toxic feedstocks, reagents, or solvents, or do not produce toxic byproducts or coproducts. Appropriate areas of investigation include chemical synthesis and catalysis, analysis and detection, separation processes, and reaction mechanisms. The types of projects eligible for grants directly parallel the scope focus areas of the Presidential Green Chemistry Challenge Program.

GRANT AMOUNTS:

In fiscal years 1995 and 1996, EPA and NSF awarded over \$12 million for 44 research projects under the Technologies for a Sustainable Environment solicitation, most of which addressed green chemistry and processing. Award amounts typically range from \$50,000 to \$150,000 per award per year, and award durations are approximately 2 to 3 years. These figures may vary annually.

ELIGIBILITY:

Eligible applicants include academic and nonprofit institutions located in the United States, and state or local governments.

The following individuals or groups may collaborate with eligible applicants:

- Personnel in profit-making firms functioning as nonfunded coinvestigators.
- Personnel in profit-making firms sub-contracting with an awardee institution.
- Personnel participating as coinvestigators with eligible institutions and who are associated with entities such as national laboratories and federally-funded research development consortia.
- Non-EPA federal employees (certain limits apply).

Ineligible applicants include:

- Profit-making firms and federal agencies.
- Federal employees seeking to increase their agency's appropriations.

Additional information about the Technology for a Sustainable Environment solicitation, including forms, is available via the Internet at <<http://www.epa.gov/ncerqa>> or <<http://www.nsf.gov>>, or from Steve Lingle at 202 564-6821 and Barbara Kern at 202 564-6824. Other sources of information regarding EPA's Presidential Green Chemistry Challenge Program include EPA's Pollution Prevention Information Clearinghouse at 202 260-1023, Paul Anastas and Tracy Williamson of EPA at 202 260-2659, and the Presidential Green Chemistry Challenge Web site <<http://www.epa.gov/docs/gcc>>.

